

IN THE CLAIMS:

Claims 1-11(Cancelled).

Claim 12 (New). An apparatus, comprising:

- a capture mechanism configured to engage a peripheral device;
- a sensing assembly configured to detect movement of the peripheral device when engaged by the capture mechanism;
- a dimension-adjusting mechanism configured to move parallel to a direction of movement of the peripheral device when engaged by the capture mechanism; and
- an actuator configured to apply force feedback to the peripheral device when engaged by the capture mechanism, the force feedback being based on control signals associated with the detected movement of the peripheral device.

Claim 13 (New). The apparatus of claim 12, wherein the dimension-adjustment mechanism is configured to automatically adjust dimensions of a coupling mechanism in response to a movement of the peripheral device, the coupling mechanism being configured to couple the peripheral device when engaged by the capture mechanism to the sensor assembly.

Claim 14 (New). The apparatus of claim 12, the dimension-adjusting mechanism being configured to automatically adjust dimensions of a coupling mechanism, the dimension-adjusting mechanism further including:

- an outer tubular-member; and
- an inner tubular-member, the inner tubular-member being at least partially disposed within the outer tubular-member and being configured to slide relative to the outer tubular-member in response to a manipulation of the peripheral device, the inner tubular-member being configured to engage the peripheral device at a proximal end of the inner tubular member, the inner tubular-member being coupled to the sensing assembly at a distal end of the inner tubular-member.

Claim 15 (New). The apparatus of claim 12, wherein the sensing assembly includes:

- a first pulley;
- a second pulley;
- a belt disposed about the first pulley and the second pulley;
- a guide rail; and

a trolley configured to move along the guide rail in response to a corresponding movement of the peripheral device when engaged by the capture mechanism, the belt being configured to move in response to a movement of the trolley.

Claim 16 (New). The apparatus of claim 12, wherein the sensing assembly includes:

- a first pulley;
- a second pulley;
- a belt disposed about the first pulley and the second pulley;
- a guide rail;

a trolley configured to move along the guide rail in response to a corresponding movement of the peripheral device when engaged by the capture mechanism, the belt being configured to move in response to a movement of the trolley;

a rotational-motion sensor configured to measure a rotation of the peripheral device when engaged by the capture mechanism; and

a translational-motion sensor configured to measure a translational-motion of the peripheral device when engaged by the capture mechanism.

Claim 17 (New). The apparatus of claim 12, wherein the sensing assembly includes:

- a first pulley;
- a second pulley;
- a belt disposed about the first pulley and the second pulley;
- a guide rail;

a trolley configured to move along the guide rail in response to a corresponding movement of the peripheral device when engaged by the capture mechanism, the belt being configured to move in response to a movement of the trolley;

a rotational-motion sensor configured to measure a rotation of the peripheral device when engaged by the capture mechanism, the rotational-motion sensor being disposed proximate to the trolley; and

a translational-motion sensor configured to measure a translational-motion of the peripheral device when engaged by the capture mechanism, the translational-motion sensor being coupled to the first pulley.

Claim 18 (New). The apparatus of claim 12, wherein the sensing assembly includes:

a first pulley;

a second pulley, the actuator being coupled to the second pulley, the actuator being configured to apply force-feedback by controlling a rotation of the second pulley;

a belt disposed about the first pulley and the second pulley;

a guide rail;

a trolley configured to move along the guide rail in response to a corresponding movement of the peripheral device when engaged by the capture mechanism, the belt being configured to move in response to a movement of the trolley;

a rotational-motion sensor configured to measure a rotation of the peripheral device when engaged by the capture mechanism; and

a translational-motion sensor configured to measure a translational-motion of the peripheral device when engaged by the capture mechanism.

Claim 19 (New). A method, comprising:

engaging a peripheral device via a capture mechanism;

coupling a sensing assembly to the peripheral device while engaged by the capture mechanism;

adjusting a dimension of a coupling mechanism in response to a movement of the peripheral device when engaged by the capture mechanism; and

applying force feedback to the peripheral device while engaged by the capture mechanism in response to control signals associated with a simulated medical procedure.

Claim 20 (New). The method of claim 19, further comprising:

sensing a rotational-motion of the peripheral device; and
sensing a translational-motion of the peripheral device.

Claim 21 (New). The method of claim 19, further comprising:

sensing a rotational-motion of the peripheral device; and
sensing a translational-motion of the peripheral device, the sensing the translational-motion including sensing a motion of a trolley, the trolley being coupled to the peripheral device.

Claim 22 (New). The method of claim 19, wherein the applying force feedback includes:

applying force feedback to the peripheral device by controlling a rotation of a pulley.

Claim 23 (New). The method of claim 19, wherein adjusting the dimension includes:

increasing a cross-section of the capture mechanism such that the peripheral device may be removed from the capture mechanism.

Claim 24 (New). The method of claim 19, wherein the adjusting the dimension of the coupling mechanism includes:

moving an inner tubular-member relative to an outer tubular-member in response to the movement of the peripheral device when engaged by the capture mechanism.

Claim 25 (New). The method of claim 19, wherein adjusting the dimension of the coupling mechanism includes:

moving a carriage assembly from a first position to a second position; and
expanding a bellows in response to the movement of the carriage assembly.

Claim 26 (New). An apparatus, comprising:

- a capture mechanism configured to engage a peripheral device;

- a sensing assembly configured to detect movement of the peripheral device when engaged by the capture mechanism;

- a dimension-adjusting mechanism configured to move between a first position and a second position in a direction parallel to a direction of movement of the peripheral device when engaged by the capture mechanism, the dimension-adjustment mechanism being configured to support the peripheral device when engaged by the capture mechanism; and

- an actuator configured to apply force feedback to the peripheral device when engaged by the capture mechanism, the force feedback being based on control signals associated with the detected movement of the peripheral device.

Claim 27 (New). The apparatus of claim 26, wherein the dimension-adjusting mechanism includes:

- an outer tubular-member; and

- an inner tubular-member, the inner tubular-member being at least partially disposed within the outer tubular-member and being configured to slide relative to the outer tubular-member in response to a manipulation of the peripheral device, the peripheral device being coupled to the inner tubular-member at a proximal end of the inner tubular-member when the peripheral device is engaged by the capture mechanism, the inner tubular-member being coupled to the sensing assembly at a distal end of the inner tubular-member.

Claim 28 (New). The apparatus of claim 26, wherein the dimension-adjustment mechanism includes:

- a bellows, the bellows having a plurality of leaves, the plurality of leaves being constructed of a rigid material, each leaf from the plurality of leaves having an aperture configured to receive the peripheral device, the apertures for each leaf from the plurality of leaves being configured to allow the peripheral device to pass through the bellows, the bellows being configured to support the peripheral device.

Claim 29 (New). The apparatus of claim 26, wherein the sensing assembly includes:

- a first pulley;
- a second pulley;
- a belt disposed about the first pulley and the second pulley;
- a guide rail; and
- a carriage assembly coupled to a bellows and being configured to move along the guide rail in response to a corresponding movement of the peripheral device when engaged by the capture mechanism, the belt being configured to move in response to movement of the carriage assembly.

Claim 30 (New). A method, comprising:

- providing a capture mechanism configured to engage a peripheral device;
- providing a sensing assembly configured to detect movement of the peripheral device when engaged by the capture mechanism;
- providing a dimension-adjusting mechanism configured to move between a first position and a second position in a direction parallel to a direction of movement of the peripheral device when engaged by the capture mechanism, the dimension-adjustment mechanism being configured to support the peripheral device when engaged by the capture mechanism; and
- providing an actuator configured to apply force feedback to the peripheral device when engaged by the capture mechanism, the force feedback being based on control signals associated with the detected movement of the peripheral device.

Claim 31 (New). The method of claim 30, wherein providing the dimension-adjusting mechanism includes:

- providing an outer tubular-member; and
- providing an inner tubular-member, the inner tubular-member being at least partially disposed within the outer tubular-member and being configured to slide relative to the outer tubular-member in response to a manipulation of the peripheral device, the peripheral device being coupled to the inner tubular-member at a proximal end of the inner tubular-member when the peripheral device is engaged by the capture mechanism, the inner tubular-member being coupled to the sensing assembly at a distal end of the inner tubular-member.

Claim 32 (New). The method of claim 30, wherein providing the dimension-adjustment mechanism includes:

providing a bellows, the bellows having a plurality of leaves, the plurality of leaves being constructed of a rigid material, each leaf from the plurality of leaves having an aperture configured to receive the peripheral device, the apertures for each leaf from the plurality of leaves being configured to allow the peripheral device to pass through the bellows, the bellows being configured to support the peripheral device.

Claim 33 (New). The method of claim 30, wherein providing the sensing assembly includes:

providing a first pulley;

providing a second pulley;

disposing a belt about the first pulley and the second pulley;

providing a guide rail; and

providing a carriage assembly coupled to a bellows and being configured to move along the guide rail in response to a corresponding movement of the peripheral device when engaged by the capture mechanism, the belt being configured to move in response to movement of the carriage assembly.